

REMARKS

Claims 1, 3-10, 12-16, 18-21 and 23-28 were pending in the application. Claims have been rejected under 35 U.S.C. §103(a) as being deemed unpatentable over Wood (US 6,915,363), Brewer (U.S. Patent No. 6,886,057), Kahn (U.S. Patent No. 6,636,909), Wong (U.S. Publication No. 2003/0035504), "Fibre Channel Tutorial" and "Parallel vs. Serial ATA". Of the Claims, Claims 1, 9, 15, and 20 are independent. Claims have been amended to clarify the Applicant's invention. Claim 28 is newly added. Support for the newly added Claim is in the Applicant's specification as originally filed. (See, for example, Page 8, lines 15-22.) The application as amended and argued herein, is believed to overcome the rejections.

Regarding Rejections under 35 U.S.C. § 103(a)

Claims 1, 3, 6, 9, 12, 14-15, 19-20 and 24 have been rejected under 35 U.S.C. §103(a) as being deemed unpatentable over Wood in view of Brewer and further in view of Kahn.

Claims 4, 13, 16, 18, 21 and 23 have been rejected under 35 U.S.C. §103(a) as being deemed unpatentable over Wood, Brewer, Kahn and further in view of Wong.

Claims 5, 7 and 10 have been rejected under 35 U.S.C. §103(a) as being deemed unpatentable over Wood, Brewer, Kahn and further in view of "Parallel vs. Serial SCSI".

Claims 8, and 25-28 have been rejected under 35 U.S.C. §103(a) as being deemed unpatentable over Wood, Brewer, Kahn and further in view of "Fibre Channel Tutorial".

Cited art, Wood discusses selective spin-up of data storage devices in a data storage device array. (See Abstract, Fig. 3.)

Cited art, Brewer discusses a method and system for selecting one of plural bus protocols associated with a device.

Cited art, Kahn discusses a method for throttling commands to a storage device.

Cited art, Wong discusses skip-free retiming transmission of digital information in a plesiochronous data communication system by performing rate compensation on a retimer clock instead of on the data stream.

To establish a prima facie case for obviousness under 35 U.S.C. 103(a), (1) there must be some suggestion or motivation to combine reference teachings; (2) there must be a reasonable expectation of success; (3) the references when combined must teach or suggest all the claim limitations. For the reasons discussed below, it is respectfully submitted that the Office has not established a prima facie case under 35 U.S.C. 103(a) for claims 1, 3-10, 12-16, 18-21 and 23-28 and that therefore, claims 1, 3-10, 12-16, 18-21 and 23-29 are allowable.

The references when combined do not teach or suggest all the claim limitations

Wood fails to disclose or suggest at least:

“an intermediate device to be coupled between a storage protocol controller and at least one storage device, and capable of communicating in accordance with a plurality of storage protocols”

as claimed by the Applicant in claim 1.

The Office cites “port controllers 316” illustrated in FIG. 3 of Wood as corresponding to the Applicant’s claimed “intermediate device”. However, Wood merely discusses a system that includes a host computer (302) in communication with a storage device (data storage device array (301)). In contrast to the Applicant’s “storage protocol controller”, the port controllers 316 discussed by Wood are merely elements included in the storage device (data storage device array (301)). There is no teaching or suggestion of an intermediate device coupled between the host computer and the data storage device array that includes “protocol sensing circuitry” or “flow control circuitry”. For example, in an embodiment of the Applicant’s claimed invention, there is “an intermediate device” coupled between a storage protocol controller and at least one storage device. (See, for example, Fig. 1, 140 (protocol initiator engine), intermediate device (150), mass storage (104).)

Brewer fails to disclose or suggest at least:

“protocol sensing circuitry to determine based on an initialization signal sequence indicative of a storage protocol received from the at least one storage device which one of the plurality of storage protocols via which the at least one storage device to be coupled to the intermediate device is capable of communicating”

as claimed by the Applicant in claim 1.

Brewer's discussion of a protocol identification unit 58 illustrated in FIG. 2 of Brewster merely detects a bus protocol based on a state of one or more pins on a connector that are driven by a protocol adapter. Brewster's discussion of a logic state of a signal on a bus does not teach or suggest the Applicant's claimed “initialization signal sequence indicative of a storage protocol received from the at least one storage device”. The “initialization signal sequence” is used by the protocol sensing circuitry to determine “which one of the plurality of storage protocols via which the at least one storage device to be coupled to the intermediate device is capable of communicating”.

Thus, the combination of Wood, Brewer and Kahn fails to teach or suggest all elements of claim 1.

Furthermore, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990.)” (See MPEP 2143.01 III.)

The Office action does not identify any evidence in the prior art indicating or in any way suggesting the desirability of the proposed modifications. The Office fails to identify a suggestion or motivation in the prior art for combining Wood and Brewer. The Office action merely states: “it would have been obvious to combine Brewer with Wood for the benefit of combining multiple buses on one set of wire lines with the universal form factor supporting multiple bus protocols”. There must be actual evidence of a suggestion to modify a prior art reference or to combine two prior art references, and the suggestion to combine or modify the prior art must be clear and particular. (See In re Dembiczak, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999).)

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The Office has failed to establish a prima facie case of obviousness under 35 U.S.C. § 103 because (1) the Office has failed to provide some suggestion or motivation to combine reference teachings because it failed to identify any evidence in the prior art indicating or in any way suggesting the desirability of the proposed modification, and (2) the references when combined do not teach or suggest all the claim limitations.

Claims 3-8, 25 and 29 are dependent claims that depend directly or indirectly on claim 1, which has been shown to be distinguished over the cited art. Independent claim 9 recites a like distinction and is thus distinguished over the cited art. Claims 10, 12-14 and 26 depend directly on claim 9. Independent claims 15 and 20 recite a like distinction and are thus distinguished over the cited reference. Claims 16, 18-19 and 27 depend directly on Claim 15, Claims 23, 24 and 28 depend directly on claim 21 and are thus distinguished over the cited reference.

Accordingly, the present invention as now claimed is not believed to be anticipated by the cited reference. Removal of the rejections under 35 U.S.C. § 103(a) and acceptance of claims 1, 3-10, 12-16, 18-21 and 23-29 is respectfully requested.

CONCLUSION

In view of the foregoing, it is submitted that all claims (Claims 1, 3-10, 12-16, 18-21 and 23-29) are in condition of allowance. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the above-referenced application.

Please charge any shortages and credit any overcharges to Deposit Account Number 50-0221.

Respectfully submitted,

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